



BADGER STATE **Smoke Signals**



Serving Amateur Radio in Wisconsin

Published Monthly Since 1969

Vol. 17 No. 7 - 199th Consecutive Monthly Issue (Almost 200!) - Baraboo, Wis. - July 1986

E A A / Oshkosh / 1986 **Wittman Field / August 1 - 8**



Amateur Radio will, as usual, be part of the Experimental Aircraft Association's Convention and Fly-In in Oshkosh this year. Shown here, left to right, are Chuck Larson, KØYUD (Education Director, EAA Aviation Foundation), Forest Schafer, WD9IWL, Elmer Ericksen, W9KKK, and Terry LaCroix, N9CCA. Read all about it on page 6. Sport Aviation photo.

Badger State Smoke Signals supports: The American Radio Relay League (ARRL) - The Wisconsin Nets Association (WNA) - The Wisconsin Association of Repeaters (WAR) - The Amateur Radio News Service (ARNS) - The Courage Handi-Ham System - The Morse Telegraph Club - GEARVAKf (The 'f' is silent)

Badger State Smoke SignalsOfficers:

Ken Ebnetter, K9EN, Chairman
 Jim Romelfanger, K9ZZ, Editor
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Permission is granted to re-
 print items from BSSS provid-
 ing credit is given to the
 author and Badger State Smoke
 Signals.

We forgot to give credit to the West Allis RAC for the fine Wisconsin QSO party and the excellent results that were published in last month's Smoke Signals. They worked hard, did a great job and have earned the thanks of all the participants who enjoyed the great party.

A special thanks from BSSS to Dave Knaus, WA9POV, who supplied us with a computer disk with the results. This saved us the time consuming and error prone job of entering all those calls and results.

SWAPFESTS AND OTHER SOCIAL EVENTS

The 1986 South Milwaukee ARC Swapfest will be held on Saturday July 12, 1986, beginning at 7:00 am, at the American Legion Post 434, Shepard Ave, Oak Creek, WI. BUY - SELL - SWAP - FOOD - DRINKS - PRIZES - CAMPING. Tickets \$3.00. Amateur Radio exams - Wisconsin meeting of the Society of Midwest Contesters - Packet radio meeting (W.A.P.R.). Talk in on 146.94. See flyer with last month's Smoke Signals for more information and directions.

The 3rd annual Eau Claire Hamfest, sponsored by the Eau Claire ARC will be held on Saturday, July 12, 1986, 8:00 am to 4:00 pm at the 4th building on Fairfax St. Admission: \$3.00 at the door. Amateur License tests given - Free tables for Hams - Free coffee - Commercial exhibitors - Food - Talk in on 146.52.

June 28-29 -- FIELD DAY -- Check with your local club.

Sunday, July 27, 1986. The Belvidere Hamfest. Boone County Fairgrounds, Route 76, Belvidere, IL. Contact Jim Grimsby, W9HRF, 210 Oaklawn Ln. Poplar Grove, IL 61065

Saturday, August 16, 1986. The Green Bay Mike & Key Club's Swapfest will be held at the Community Center behind St. Mary's Hospital (on Dousman St.) in Green Bay.

Saturday, August 16, 1986 -- The Rhinelander Swapfest, sponsored by the Northwoods ARC & ARES. 8:00 am to 3:00 pm - No charge for tables on first come first served basis - Tickets \$1.00 each or 6 for \$5.00 - Dealers welcome. Contact Leonard Bauman, K9RNN, 1312 Dorothy St., Rhinelander, WI 54501 or phone 715-369-3296.

September 5, 6 & 7. ARRL National Convention, San Diego. See QST for details.

September 20, 1986 -- The 1986 WNA Picnic.

Sunday October 12, 1986 -- The KMRA Swapfest in Waukesha, WI. KMRA, P.O. Box 411, Waukesha, WI 53187.

October 18-19. ARRL Central Division Convention, St. Charles, ILL.

As a service to our readers, this section of Badger State Smoke Signals is available without charge to list your upcoming Swapfest, Hamfest, dinner, picnic, party or other event of interest to Radio Amateurs in Wisconsin and nearby areas.

Send information on your event to Kenneth A. Ebnetter, K9EN, 822 Wauona Trail, Portage, WI 53901. In addition, space is available at attractive rates on our advertising pages, and/or we can include your flyers. For information on rates and requirements for our advertising pages, and/or for including flyers, please contact K9ZZ or K9EN.

CLUB MEETINGS:Badger Amateur Radio Society

(W9YT - University of Wisconsin - Madison)

Regular monthly meetings are held at 7:30 PM on the 2nd Wednesday of every month while school is in session, in 8314 Electrical Engineering Building.

Central Wisconsin Radio Amateurs, Ltd.

(Stevens Point)

Regular club meetings are held on the second Wednesday of the month.

Eau Claire A.R.C.

The Eau Claire Amateur Radio Club meets every second Tuesday of the month. Hams and guests are welcome.

The next meeting of the Eau Claire Amateur Radio Club will be held on July 8th at the Eau Claire Parks & Rec. Bldg. located at Oxford and First Sts. The meeting begins at 7:30 PM.

Four Lakes A.R.C. (Madison WI)

RED CROSS BUILDING, 4860 Sheboygan Ave, Madison, WI., first and third Tuesday each month.

Green Fox Amateur Radio Club

Meetings are held the third Monday of the month at 7:30 p.m. at the Green Lake Town Hall located at the intersection of county highways K and M.

Kettle Moraine Radio Amateurs:

All meetings are held on the SECOND (2nd) Friday of each month.

Manitowoc County Radio Amateurs

MANCORAD meets on the third Wednesday of each month at 7:30 p.m. at Manitowoc Red Cross Bldg, 20th and Washington Streets in Manitowoc WI.

Milwaukee Radio Amateurs Club:

All regular meetings of MRAC scheduled for 1986 at Wauwatosa Savings and Loan Building, 7500 West State Street, will be held on the second Thursday of the month. NO MRAC MEETINGS ARE SCHEDULED FOR JULY AND AUGUST.

Ozaukee Radio Club

Meetings held every second Wednesday at 7:30 p.m. in the Saukville Community Center

Riverland Amateur Radio Club

Regular meetings are held at 7:30 P.M., on the first Wednesday of each month in the Onalaska Community Center in Onalaska, WI.

South Milwaukee Amateur Radio Club

Meetings held at Legion Post 434, Shepard Ave., Oak Creek, on first Wednesday of the month. Auctions held at March and October meetings.

West Allis Radio Amateurs Club

Regular meetings are held on the second Tuesday of each month at St. Francis Savings, 9330 W. Greenfield Ave., at 8:00 P.M.

The Wisconsin Valley Radio Association. (Wausau)

Holds regular monthly meetings on the first Tuesday of the month at 7:30 p.m. The location varies, but information is available on the 146.04/64 repeater in Wausau.

Yellow Thunder Amateur Radio Club:

(Baraboo, WI)

All regular meetings of YTARC are at the Baraboo Civic Center. Meetings start at 7:30 P.M. The meeting dates for 1986 are: July 16, in room 29, Aug. 14, in room 29, Sep. 15, in room 25, Oct. 14, in room 25, Nov. 12, in room 29, & Dec. 11 in room 29.

Let us know of your club meeting dates, and we will let others know of your meetings and activities. There may be Amateurs in your area interested in joining your club, or members of other clubs interested in making an interclub visit.

MISSELANIOUS MISCELLANEOUS MISCELLANEOUS MISCELLANEOUS
Oh what the heck -- items of interest:

Peter Dehnant, KD9HJ has been promoted to Chief Engineer of WKOW-TV, Channel 27, in Madison. (Received on packet from WA9SOU)

Area Amateurs have offered to help with the Fourth of July parade in Columbus, WI. If you are available to help, contact John Nagler, KA9B1K,

107 Morris St., Beaver Dam, WI 53916. (414) 885-5083.

Many club newsletters report clubs are planning for Field Day. BSSS would like to know of your results, and would appreciate some pictures for a special Field Day picture page.

Central Wisconsin Radio Amateurs Ltd.
(Stevens Point)WATTS SHOO

An excerpt from the Chicago Area Chapter QCWA News reports that Bob Baird, W9NN was presented with his 65 year certificate as a licensed Ham during ceremonies at a meeting of the Spaceport QCWA Chapter in Cocoa Beach, Florida last March. Congratulations Bob.

Four Lakes Amateur Radio ClubTHE FEEDLINE

Bill Mollin is now Extra Class, and his new callsign is KN9C.

The following have upgraded:

Corky Holmquist, KA9BDY to general

Jim Hill, KA9SSI to Advanced

Jim Blair, KD9TC to Extra Class.

KN9W has some new wallpaper -- Bob Mecum, received his certificates for DXCC-Phone and DXCC-CW, in addition to already having the DXCC-Mixed certificate. Congratulations to all the above.

Oshkosh Amateur Radio Club, Inc.THE INTERCON

Here are some recent call changes and an upgrade.

J.B. - KA9UNF to N9FTQ

Dennis - KA9UNE to N9FTP

Steve - KA9LBD to KD9WQ

Mavis - KA9UNB to Technician

Wisconsin Association of Repeaters

New coordinations include our first 907 MHz. coordination! N9EDL was coordinated on 919.025/907.025. Hope you can find some equipment, Marlin!

Our thanks to the above mentioned clubs and their bulletins for the information presented. Badger State Smoke Signals will be pleased to exchange bulletins and information with your club. Please contact K9ZZ or K9EN.

THE TEST POINT

The following are known locations where Amateur Radio license examinations are scheduled in the Badger State area.

July 11-12, 1986	Eau Claire, WI
July 12, 1986	South Milwaukee, WI
July 19, 1986	Minneapolis, MN
August 16, 1986	Waukesha, WI
August 16, 1986	Robbinsdale, MN
September 20, 1986	Waukesha, WI
September 20, 1986	St. Paul, MN
October 18, 1986	Minneapolis, MN
November 1, 1986	Stevens Point, WI
November 15, 1986	Robbinsdale, MN
December 13, 1986	St. Paul, MN
Third Sat. Monthly	Loves Park, IL

General rules for all examinations:

All examinations require filing an FCC Form 610 and advance registration at least 30 days before the exam date. (Some VECs may permit walk-ins. Check with sponsor to find out if they allow walk-ins.)

To register for these examinations, you must first secure a copy of the current FCC Form 610 and fill it out completely (AND CORRECTLY). Get your form from the FCC Field Office, the ARRL or Badger State Smoke Signals. Send a 22¢ SASE if you request one from the ARRL or BSSS. In most cases, forms can also be obtained from the sponsoring group. Remember-- you must file at least 30 days in advance unless otherwise indicated.

ARRL/VEC examinations require a check for \$4.25 payable to "ARRL/VEC".

The FCC now requires applicants to show their original Amateur license to the VEC. As in the past, a copy of your license must be attached to your FCC form 610.

Additional information is given below.

Friday, July 11, 1986 (evening)
Saturday, July 12, 1986

At Eau Claire Hamfest. WALKINS-ONLY; no preregistration

Friday, 7 p.m. to 9 p.m.; Saturday, 9 a.m. to 12 noon.
Fee: \$4.25. Bring your original license and a photocopy. Please Study!

MILWAUKEE VOLUNTEER CORE GROUP - (DEVRY VEC)

July 12, 1986 - At Swapfest 86 (South Milwaukee)

August 16, 1986, September 20, 1986:

The MVCG will be giving Amateur Radio exams in the Service Occupation Building in rooms S0208 and S0209 at the Waukesha County Technical Institute on the above dates. Exam fee is \$4.00. Walk-ins welcome. Free coffee at WCTI only. Exams begin at 9:00 a.m. All exams available in Braille, large type, and on cassette tape for visually impaired. Bring your original Amateur license. If interested, please send a post card with your name, address, phone number, date of test session, and grade of license you wish to achieve, to Syl Janczak, WD9JKZ, 3127A West Madison, Milwaukee WI 53215.

Note: All exams are available in Braille, large type, and on cassette tape for the visually impaired. Exams for shut-ins by appointment only.

November 1, 1986 Stevens Point, WI

Central Wisconsin Radio Amateurs, Ltd. - (ARRL/VEC)

Contact: Joe Larson N9JW
644 Portage Street
Stevens Point WI 54481

Third Saturday of every month.

Northern Illinois Volunteer Examiners (DeVry VEC).
Held at North Suburban Library on North Second Street in Loves Park, IL.

Contact:

Gene Melton, AK9N
124 S. Chicago Ave. #2
Rockford, IL
(815) 229-7249

Minnesota tests - contact information:

Gopher/Minneapolis ARC: Robbinsdale ARC:
Fred Hird Neil McMillan
4716 Emerson Ave. S. 11132 97th Place
Minneapolis, MN 55409 Minneapolis, MN 55369
824-7702 (424-6248)

St. Paul ARC:
Jay Bellows
997 Portland Ave.
St. Paul, MN 55104
222-7253 (home) - 291-8015 (work)

This section of Badger State Smoke Signals is available to publicize your Volunteer Examiner Amateur Radio license examination schedules.

Please send us your schedules of dates, times, and locations that you will be conducting examinations and we will include the information here. Be sure to include contact address and any other necessary requirements. Information should be sent to K9EN or K9ZZ at the address shown on page 2.

BSSS RATE INCREASE

We regret that we find it necessary to make a small increase in the subscription rate for Badger State Smoke Signals subscribers. Current rates: (new rates in parenthesis)

Subscriptions: (new rate effective 8/1/86)

1 year	\$7.00	(7.50)
2 year	13.00	(14.00)
3 year	19.00	(20.00)

Club rates: (new rate effective 10/1/86)

Subscribing members of club only:
10 or more subscriptions \$4.50 per year (5.00)

All members of club:
Less than 50 members \$4.20 per year (4.80)
50 or more members \$3.60 per year (4.20)

That's the bad news, the good news is that you can still subscribe or renew your subscription at the old rates if you do so now. Use the subscription blank on the back of the mailing sheet.

***** RENEW NOW AND SAVE! *****



YELLOW THUNDER A.R.C.

The June 10, 1986 meeting of the Yellow Thunder Amateur Radio Club, Inc. was called to order by President Art Kleefisch, W9WSS, at 7:45 p.m.

The following members were present:

Art Kleefisch, W9WSS	Baraboo
Jim Decker, W9UQT	Baraboo
Harry Westlund, K9EHJ	Baraboo
Ken Johnson, K9DZB	Mazomanie
Ruth Familetti	Wisconsin Dells
Steven Schwoegler, W9RNL	Wisconsin Dells
Harry Mayland, K9FFT	Baraboo

The Treasurer, Jim Decker, W9UQT had nothing to report. No receipts, no disbursements. Bank Balance same as last month. \$323.19

(1) Open discussion of Field Day participation. Participants will meet at 10:00 a.m. at Owen Park for setup and start operation at 1:00 p.m.

(2) Further discussion on the club purchase of a frequency counter narrowed the choice to either one of two makes. i.e. Ramsey or Optoelectronics.

(3) With no further business, meeting turned to an explanation of electric generation and phasing by our honorable president Art Kleefisch, W9WSS.

(4) Winner of the \$3.00 door prize was Paul Amend, K9OBP, who was not present.

(5) Meeting adjourned and bull session resumed at the Country Kitchen.

Respectfully submitted,
Harry Westlund, K9EHJ
Acting Secretary

YTARC BIRTHDAY:

Charles Scholten W9BZU July 19

Sentence Sermon

The founding fathers believed devoutly that there was a God and that the inalienable rights of man were rooted -- not in the state, nor the legislature, nor in any other human power -- but in God alone.

-- Tom C. Clark

WANTED -- Drake MN7, W9UDY, 608-222-1046.

AMAZING FACTS: Did you know that there are 5,280 feet in a mile, every one of them 12 inches long?

- From GEARVAKf Bulletin

Amateur Radio: An Aid to Rehabilitation From World Radio

"This is WIKRU...Calling CQ CQ (to anyone on the air)..."

After several moments, a voice came: "WIKRU... WIKRU... This is N5ESE, Dallas, Texas. Do you copy?"

"N5ESE... This is WIKRU in Boston," said James Warakois over a 150-watt shortwave radio. "I'm at the Massachusetts General Hospital..."

As a casual conversation ensued, several individuals within earshot gathered around the radio equipment in a ninth-floor solarium in the hospital's White Building.

Mr. Warakois, a Unit Coordinator at the hospital, passed the microphone to Bob who eagerly joined in the transmission. Then another patient had a turn. Then still another.

Since 1979, the scenario has repeated itself hundreds of times at the MGH. Patients on White-9 -- some hospitalized for lengthy periods -- have communicated with radio operators in much of the United States, as well as in Canada, the Bahamas, and parts of Central and South America.

"The radio station not only provides a diversion for patients, helping them to while away long hours, it also introduces them to an enjoyable method of maintaining and improving skills at socialization and communication," said Paula Beth Lutzin, an MGH Recreational Therapist.

Miss Lutzin encounters many older patients who are retired and have little to do when they return home; also, patients, such as people with a heart condition, who must adapt to a new lifestyle after discharge. For such individuals, she said, opportunities for self-directed leisure involvement and self-expression hold special importance.

Miss Lutzin recalled a radio conversation between several White-9 patients and a Ham operator in the Midwest who was confined to his home following a stroke. Some of the patients were recovering from a similar condition. "The gentleman," she said, "told what it meant to be able to communicate with much of the world even though he could not leave his house."

One MGH patient was an avid Amateur operator before being hurt in an accident. When he became a quadriplegic, he felt certain he would have to give up his avocation. But the hospital's Occupational Therapy Department adapted his home equipment for his continued use.

A number of MGH physicians hold Amateur Radio licenses. Dr. Allan H. Ropper Director, of the Neurological-Neurosurgical Intensive Care Unit, and Dr. Lawrence R. Wechsler, a Clinical and Research Fellow in Neurology, have conducted radio transmissions from White-9 with patients.

(continued on page 12)

EAA/1986

The Oshkosh Amateur Radio Club and the S.O.L.A.R. Association (operators of the 147.345/147.945 MHz repeater) will host EAA Amateur Radio operators for OSHKOSH '86 from August 1 to 8.

You may stop and rest your feet, charge your batteries, leave messages for fellow Hams and friends, or just stop and chat at the EAA Ham Shack (W9KKK), located at the north end of the commercial display area.

The EAA Ham Shack is always a busy place, and volunteers are needed for the entire eight days to help greet visitors.

Information will be available throughout the Convention on the S.O.L.A.R. repeater, or by stopping at the EAA Ham Shack in person. Look for the red and white ARRL flag.

Be sure to bring along a QSL card to post in the shack, and, while you're there, remember to sign the visitors' register. Bring along your two-meter portable to stay in touch with fellow Hams in the area - and there are usually lots of them.

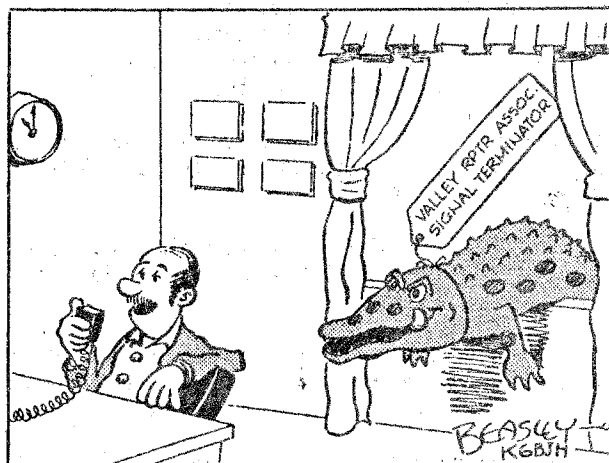
Senator Barry Goldwater, K7UGA, is being honored this year by the EAA for his dedication and contributions to aviation, and it's always possible that he may visit the EAA Ham Shack, as he did a few years ago.

You can enjoy the hospitality of the Oshkosh Amateur Radio Club and fellow Hams from across the nation and around the

world at a free Amateur Radio operators' picnic at noon on Saturday, August 2nd. Bratwursts, burgers and refreshments will be served to Ham Radio operators and their families without charge by the Oshkosh club.

The picnic will be in the EAA Nature Center near the chapel and Pioneer Airport. To help defray picnic costs, a free will offering will be taken.

(Adapted from Sport Aviation, 7/86)



WHAT DO YOU REPEATER GUYS MEAN WHEN YOU SAY, "THE ALLIGATOR'LL GETCHA?"

(Thanx Worldradio)

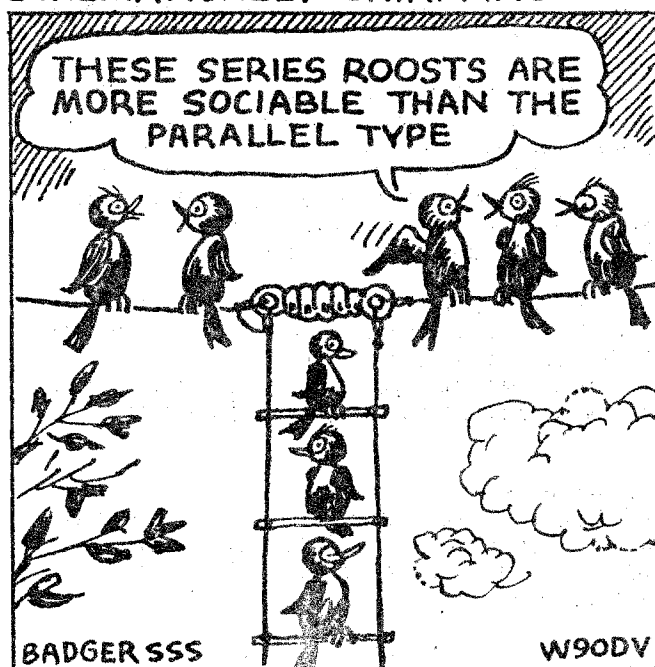
FROM YOUR EDITOR

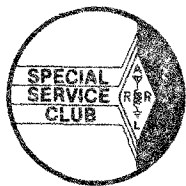
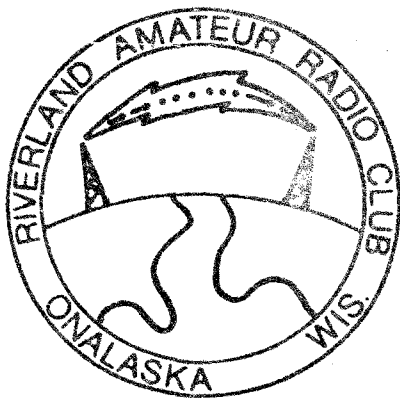
Troops, a reminder that subscription rates for Badger State Smoke Signals will increase on July 1, 1986. The increase is modest; 50 cents per year. Rates will be: One year, \$7.50; two years, \$13.50, and three years, \$19.50. If you wish, you can subscribe or renew until July 1 at the old rate.

If your club or group - or perhaps just yourself - take to the wilds of Wisconsin - or wherever - please send a few photos of your operation to us for possible publication. To reproduce well, pictures should be properly exposed and well focused, and for best results, they should be black and white. Color pictures, when halftoned for black and white reproduction, usually don't print well, and the grey scale is not always true to the original colors.

Our next issue will be our 200th. Ken, K9EN, did a little figgerin' and it looks like he has turned the crank on his trusty mimeo somewhere around 1,200,000 times. At our current circulation, we use a case of paper for each issue - 5000 sheets. And we'll be around a long time, gang! 73 de k9zz..

SCHEMATICALLY CHIRPPING





On June 4, 1986, at 7:37 p.m., the regular monthly meeting of the Riverland Amateur Radio Club was called to order by President Craig Goldbeck. The Minutes of the May meeting were approved as read from the Badger State Smoke Signals. Treasurer's Report was postponed until next month because the treasurer was out of town.

37/97 Report: The receive antenna which has been mounted at the 450 ft. level of the auxiliary tower at WXOW fell recently, ending its 15 years of service. The repeater committee recommends replacement of the antenna at this level, as well as replacement of the mount for the transmit antenna. The replacement of these awaits the decision from WXOW management on the fate of the auxiliary tower. Cost estimate for an insured climber would be 200 dollars. Ray Wakeen will represent the club on this matter to the management at WXOW.

VE Exam: The next exam will be June 25 at 7:00 p.m. in the Onalaska Community Center. At this time it is too late to sign up to take the exam.

Field Day: The site has been checked out and looks good. We are in need of another transceiver and a computer for duping. Anyone that can help out with either of these please get in touch with the field day committee. Address for the event is N8405 County Trunk V, at the end of Long Coulee. Help is needed for setup on that day. If you can help, see Craig after the meeting.

Old Business: There was no old business.

New Business: The possibility of a packet station in Tomah is being explored by N9BOE and the County Emergency Government. Information on this can be obtained from WA9FIO.

Charlie, KA9UUK, has suggested we have an Amateur Radio booth at Riverfest for the purpose of Public Relations.

Anyone interested in starting a Novice Class, see Rick, KV9U.

Meeting was adjourned at 8:03 p.m.

Program scheduled was by Barb Lyons,

speaking on the Pace Program at Lutheran and St. Frances Hospitals.

Total members present was 24.

Respectfully submitted by Greg A. Miller, with the help of Rick Williams.

Members Present

Craig Goldbeck
Wid Johnson
John Young
Bruce Bjerstedt
Ernie Gershon
Art Osborn
Bill Winder
Mike Nelson
Bob Pluntz
Phil Long
Dick Low
L. F. Bentzen
Ray Wakeen
Ron Reed
Duane Fruechte
Van Elston
Gary Webb
Feroz Ghouse
Steven Pavela
Jim Molledahl
Charlie Burch
Roger Reader
Scott Neader
Tom O'Brien
Bob Anderson
Rick Williams

N9ETD
W9DM
W9KAZ
K9CUT
K9ZVU
W0JDC
K9EGQ
KB9RJ
WD9FKV
KA9RLI
K0JYB
K9EGO
WA9HHM
KD9OY
W9HWQ
WA9FIO
N19V
4S7FG
KA9TSW
W9BI
KA9UUK
KA9BKK
KA9FOX
WB9BJQ
WA0VHO
KV9U

Guests Present

Jule Kish
Eric Pipkin
Jackie Lyon - Loni Lyon - Al Hoffman

KA9UJL
KA9UCL

Additional Notes

I would like to say thanks to Rick Williams for taking over for me while I was gone on vacation during the June meeting, and while I was ill for the May meeting. His help was much appreciated. Thanks, Rick!

IN MEMORY OF W9JLH, SILENT KEY

Was sorry to hear of the passing of club member and good friend Bob Colleran, W9JLH, on Saturday, May 31. Bob got his first Amateur license around 1936 while in high school. His first call was W9IFS. After graduating from West Point Academy in

1941, he served as a pilot in the South Pacific during WWII, leaving the service with the rank of Lt. Colonel. He worked for over 30 years with the Trane Company, retiring in 1979. Bob was 69.

REMEMBER! REMEMBER! REMEMBER!

Come join in the fun of Field Day!! Any questions on time, date, location, call Craig, N9ETD. SEE YOU THERE!

NEXT MEETING: July 2, 1986, at the Onalaska Community Center at 7:30 p.m. See you there.

Greg, KA9FOZ



WHY DON'T YOU
COME UP AND
C.W.
SOMETIME
?

WSSN

6:30

PM

Daily

Propagation Predictions

By Woody Minar K9EF
13508 Tabscott Drive
Chantilly VA 22021

Besides the geomagnetic activity written about in earlier articles, another aid used in analyzing solar-terrestrial activity and predicting propagation is the Solar Radio Flux. It is more often referred to as the 2800 MHz Solar Flux.

The sun emits radio energy with a slowly varying intensity. These radio fluxes, which originate from atmospheric layers high in its chromosphere and low in its corona, change gradually from day to day in response to the number and size of (sun)spot groups on the solar disk.

From many observatories worldwide, measurements are taken either at predetermined intervals throughout the day or at the same time each day and at selected frequencies ranging from 245 MHz to 15,400 MHz. The measurement derived for the day is said to be the solar flux at the measured frequency for the day. Most commonly, one hears of the 2800 MHz (10.7 cm) Solar Flux at Ottawa, Ontario.

These solar flux measurements have been taken continuously since February, 1947.

A solar flux unit is a measure of energy received per unit time, per unit area, per unit frequency interval. That is, one solar flux unit equals the factor 10 to the -22 Joules/second/square meter/hertz.

During quiet years or years of low sunspot activity, such as those now, the daily solar flux unit varies little - generally between 65 and 90 flux units (qualifiably never below 60). In the good propagation years, the general range is about 130 to 250 flux units. Peak periods may go higher. This was observed from November 5 to 15, 1979, when the solar flux started at 250, peaked at a twelve year high of 383, and ended at 250.

Keep in mind that the higher the solar flux number, generally the better the propagation.

May props reverted to the normal cyclic low. This was after April gave us slightly better than normal props (an April fool's prank, perhaps?)

Predictions:

July 1 - 3	Bad
July 8 - 10	Good
July 15 - 16	Bad
July 22 - 24	Good
July 29 - 30	Bad
August 5 - 6	Good
August 12 - 14	Bad

*Excerpts taken from NDGC E/GC2 February 1984 bulletin.

NOVICE ENHANCEMENT BACKLASH

(From The Westlink Report)

The ARRL-sponsored Novice Class enhancement proposal, designated PR 86-161, is beginning to draw flack -- most of it coming from Hams who want Novices "kept in their place." In other words, where they are now.

Several letters Westlink has received ask why League members were never polled before petitioning the FCC for this change. Although rarely done, the ARRL did use a mail-back card sent with QST magazine when the issue of 40 meter expansion was being explored.

(Westlink Report strongly supports the League in PR Docket 86-161. We feel growth in the Novice Class is essential to the future of our service.)

From Your Editor: Statistics show a loss of 10,000 Novices over the past two years.

Those who want Novices "kept in their place" do not know - or choose not to know - how rapidly our ranks are thinning - and they are thinning in the worst possible place - at the Novice level.

It's obvious - at least to those who know and care - that there is nothing to attract beginners. In order to turn the downward trend around, something had to be done to bring newcomers into our hobby. And, that's exactly what the ARRL has done.

I agree with Westlink's position. There is no question about it - Growth in the Novice Class is essential to the future of our service, and I commend the League for its concern and for its action.

The entry level license - the Novice class - was created for the purpose of introducing newcomers to Ham Radio, and to provide incentive to upgrade. If there is nothing to attract new people, they won't enter the hobby. The League's proposal will certainly help.

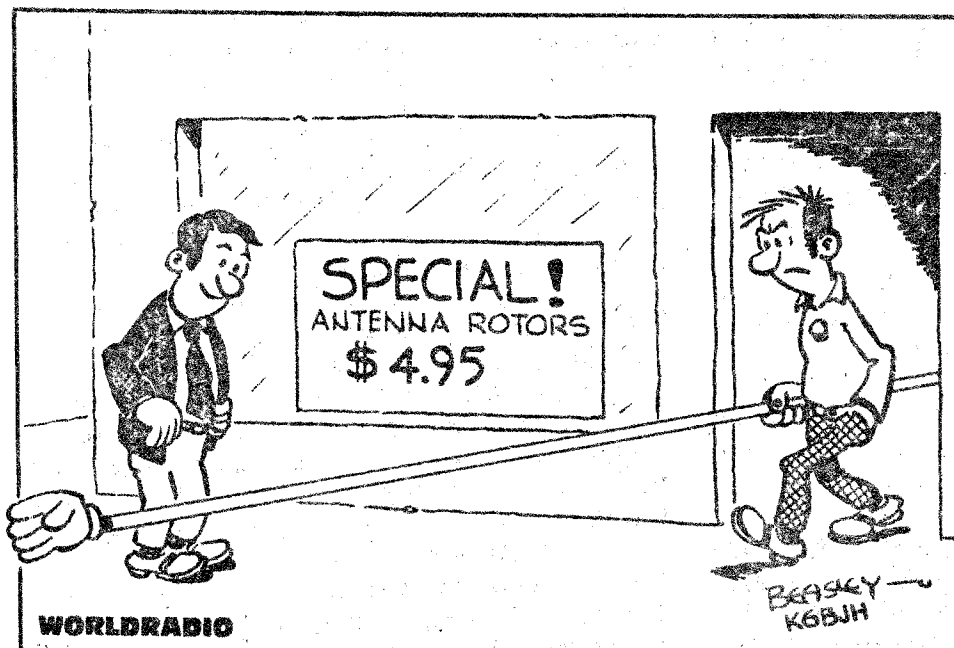
Those who want Novices "kept in their place" may find that soon there will be no place - for any of us.

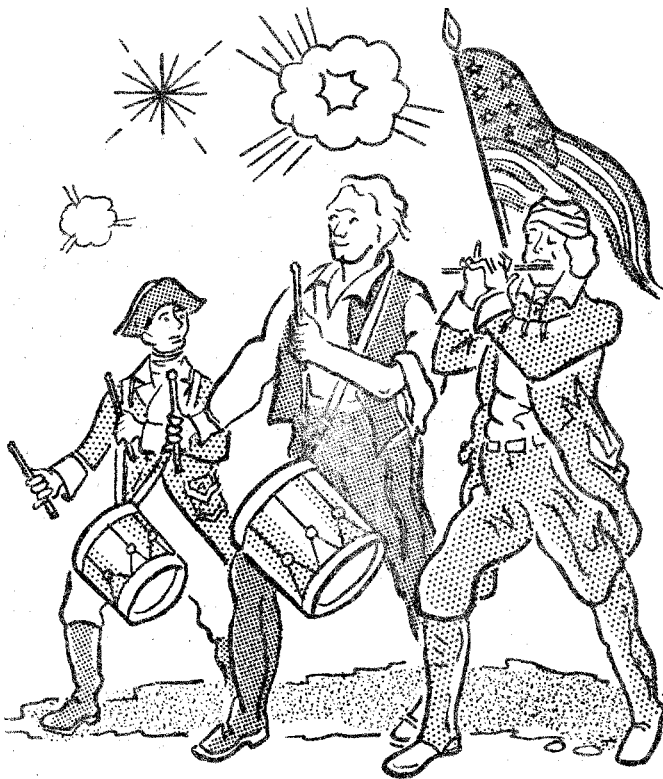
Jim Romelfanger K9ZZ

CANADIAN REPEATER DIRECTORY

If you live in Canada or plan to visit that country, you will be happy to know that the CRRL 1986 Canadian Repeater Directory is now available. Extensively revised, the new directory lists over 600 repeaters across the nation. Free copies are available for an SASE with the proper Canadian return postage affixed and sent to the CRRL, Box 7009, Station E, London, Ontario, Canada N5Y-4J9.

A special QSL card, commemorating the re-dedication of the Statue of Liberty, has been created and is available from Rusprint. These are full color cards and cost \$24.95 per 100. Inquiries should be sent to Rusprint, PO Box 7575, Kansas City MO 64116. (Thanx Westlink.)





Happy Birthday, America!

FCC NOVICE CLASS DEFINITIONS

W5YIPES Retort
GEARVAKf Bulletin Exempt
(From West Coast Amateur Radio Club via
Lockheed ARC via ARNS)

1. **PARASITIC ELEMENTS:** A common problem caused by the proliferation of mistletoe growing out of a dipole antenna.

2. **DIPOLE ANTENNA:** Any antenna that is suspended between two poles, hence the name "dipole."

3. **FOLDED DIPOLE ANTENNA:** A dipole antenna that has not yet been taken out of the box.

4. **BROADBAND:** A sexist term formerly applied to ham bands erroneously thought to have been restricted to YL hams.

5. **ANTENNA FEED:** A mixture of powdered aluminum, Kibbles and Bits, and cod liver oil.

6. **DIGITAL LOGIC:** Counting on one's fingers during the FCC exams (use of square roots and exponential numbers is not recommended for those who are not double jointed.)

7. **FERRITE BEADS:** Highly poisonous bait for ferrites, small nocturnal animals that feed on coaxial cable.

8. **DECAY TIME:** A little known property of integrated circuits defined as the number of days an IC will function before its insides rot out.

9. **PUSH-PULL AMPLIFIER:** An amplifier with handles on either end of the case.

10. **FREQUENCY RESPONSE:** The number of QSLs received divided by the number sent out, multiplied by 100.

11. **CARRIER FREQUENCY:** The number of aircraft carriers in a fleet, specifically, those equipped with radio.

12. **RF SUPPRESSION:** A recent attempt by consumer activists to put severe restrictions on radio transmissions.

13. **POLARIZATION:** The sticking together of CW characters in an extremely cold environment.

14. **MUF:** Maximum Usable Fudge. The most home-made fudge a Ham Radio operator can eat during a DX contest.

STUFF: From K9ZZ

Packet Radio is growing and it's growing fast. It sounds as though a digipeater will show up in the Tomah area, and that will open the path to the Twin Cities and further west from there from here in southern Wisconsin.

I'm still looking for two lasers, preferably solid state, but HeNe would be OK; power .2 to .4 milliwatts. You got or know where I can find 'em? My address is on page two, or call (608) 356-4249.

If you are of a philanthropic bent, BSSS could use donations of a few items, if you have 'em to donate: electric staplers, 20 pound white offset bond paper, A B Dick 2060 mimeo stencils, and if you're really in a generous mood, we could make good use of an electronic stencil cutter. If you have anything like these items, please call me.

If you are wandering around the Poynette area some time and feel the need for nourishment, I suggest you give the Owl's Nest at Highways 51 and CS a try.

See Ya.. Happy 4th of July.. k9zz



EAU CLAIRE A.R.C.

NEXT MEETING

The next meeting of the Eau Claire Amateur Radio Club will be held on July 8th at the Eau Claire Parks & Rec. Bldg. located at Oxford and First Sts. The meeting begins at 7:30 PM.

LUNCH COMMITTEE

Lunch committee for the July Meeting is WD9ULM AND N9FLK.

JUNE MEETING SUMMARY

The meeting opened at 7:30 presided by pres. Yost with 31 persons attending. The secretary's and treasurer's reports were read and approved.

WA9WRM, Tommy, thanked those who participated in the recent walkathon saying that the officials were very pleased.

OLD BUSINESS

A19N, Larry Hamre, Hamfest Director, commented briefly on the hamfest saying that we only have five weeks to go and that he will be contacting those who signed up for various committees. 3000 flyers have been distributed.

No action was taken on the use of the spare repeater by the Packet contingent. N9EQP to pursue frequency allocation and report at the next meeting.

It was decided not to purchase the inexpensive repeater controller as W9BAR feels that it is not worth the expense. The matter of purchasing a full bells & whistles controller is still tabled until the August meeting.

K9UXP has purchased the new Motorola Stationmaster antenna for the 31/91 machine. W9BAR is liaison between the Club and the TV station which has a tower crew coming later this summer. The membership approved the extra cost of the new antenna and also authorized Bob, W9BAR to dicker with the tower crew as to installation costs.

NEW BUSINESS

Field Day. Bill, KA9GNS volunteered to Chair the event. Site yet to be determined.

The club decided to have a picnic this summer, probably in August and possibly at the Lake Wissota Yacht Club. Pres. Yost to check on this site.

WB9OKQ volunteered to take over the editorship of the newsletter from KC9A who recently resigned due to the pressure of other activities.

Lisa, KA9RII has been polling members concerning their ARRL affiliation and says that we have well over the 50% required to reinstate our club as an ARRL affiliate. Paperwork is being completed. She and don, K9UXP are researching club owned radio equipment in

order to update our ARRL insurance. Lisa also commented that she has been in contact with Kieth Graham of Courage Center Handicaps and that they look most favorably toward the loan of equipment with which to equip an Amateur station to be manned by volunteers in the Rehabilitation wing of Sacred Heart Hospital.

K9UXP pointed out that the recent 31/91 repeater charger reworking was greatly facilitated by the donation of two transformers by Chet, WD9AQQ. A round of applause was given Chet.

Carl, W9NW commented on the spring Novice Class which graduated six people, two of whom, Ron Moody, KA9VKG and Joe Jarecki, KA9VKH upgraded to Technician at the St. Paul Hamfest. He also reminded all and sundry of the VE exams to be held at the Hamfest on Friday evening, July 11 and during the day on July 12. No prior registration but all walk-ins. He commented that now Eau Claire VE's have the ability and the authorization to give examinations at any time, and that they are willing to do so for groups of hopefuls upon notification.

Our EC, Phil, KA9LJK spoke on tornado spotting, SKYWARN, and the desire to reactivate a local ARES program. Material on this and a sign up sheet were available.

Amateur Radio Rehabilitation

Lisa Harper, KA9RII
514 Fall Street
Eau Claire, WI 54703
(715) 839-8516

A group of Radio Amateurs in the Eau Claire area are in the process of establishing an HF and 2 meter station on the rehabilitation floor of Sacred Heart Hospital in Eau Claire.

The idea was born after reading about a similar project underway at Massachusetts General Hospital. (See the reprint from *World Radio* in this issue of *BSSS*.) Upon presenting the idea to the directors and staff of the hospital, we met with encouragement and enthusiasm and were given the green light. The idea is not to fill up a new novice class, but to offer a form of diversion and therapy for the patients, whose average stay on the floor is 5-6 weeks, but can be as long as 6 months.

Amateur Radio offers much to the handicapped, as is evidenced by the increasing numbers of disabled Amateurs. Aside from the therapeutic benefits in the areas of speech, motor coordination and socialization, this type of patient often feels despondent when faced with a lengthy recovery period, many times unable to resume hobbies and activities in which they were active before their hospitalization. One very important aspect of this project is to make them aware that there IS something they can do, something that provides hours of enjoyment and the opportunity to socialize and make friends without even leaving their homes.

Isolation and reclusiveness can easily become a way of life for some of these people, especially if they think there are no doors open to them following discharge. At the very least we want to show the patients that there IS a door, if they choose to walk through it, and that there are many people willing to help them along the way.

We are presently waiting for confirmation from Handi-Hams concerning loaned equipment. Hopefully the details will soon be taken care of and we can get underway with the actual set-up and operation. We will need some more volunteers to act as control operators; at this point it looks like we'll be on the air in the early evening a few days a week. If we're able to to get the manpower, we hope to expand operating hours in the future, possibly to include weekends.

These are the times when the patients find time hanging very heavily. Some Hams have been asking me just when we'll be on the air, and I'll let everyone know just as soon as I know! "Thank you" to the people who have already offered their time and assistance and are anxious to get started. Anyone who thinks they might like to help in any way are encouraged; you don't have to commit hours and hours of your time. If many give a little, we'll be successful. Consider sharing some of your enjoyment in Amateur Radio; it could literally change someone's life.

Anyone with ideas, suggestions, or wishing to be a part of this program please contact Lisa Harper, KA9RII, 514 Fall Street, Eau Claire, WI 54703 (715) 839-8516.

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Amateur Radio - An Aid to Rehabilitation (continued from page 5)

With his radio set at home, Dr. Ropper has communicated with many disabled people, including paraplegics who used the chin to operate a telegraph key. The blind and patients with speech-affecting illnesses, such as cerebral palsy, also employ Morse code effectively.

One of the most exciting recent advances in Amateur Radio enables the deaf to share in the pleasures of broadcasting. Inexpensive personal computers can be programmed to receive radioteletype messages and display them on a computer screen. The operator simply types his reply on the computer.

The idea of communicating by shortwave radio from a patient care floor at the MGH originated with an orthopedic patient, Robert Underwood, who initially was seen speaking into a walkie-talkie. Mr. Warakois, a former engineer with a commercial radio station in Boston, brought in another walkie-talkie and began a series of on-air conversations with Mr. Underwood.

In the belief that enough patients and hospital personnel would be interested in participating, Mr. Underwood volunteered to transfer a Ham Radio setup from his home to the hospital and operate it on White-9. Even after his discharge, he periodically returned with his equipment.

"At a later time, we would often run over to the Beacon Hill apartment of one of our surgical residents, who was also an Amateur operator, and borrow his set," Mr. Warakois said. "Sometimes the doctor, Jon Perlman, ran it. Sometimes I did."

Five years ago, the Ladies' Visiting committee of the MGH provided funds to buy the hospital's present shortwave radio. At the same time, Mr. Warakois replaced a vertical whip-like antenna that had been clamped to a railing outside the 12th floor of the White building with a better system of transmitting and receiving signals.

Miss Lutrin said that the hospital can only offer patients the opportunity to sample radio operating as one way to keep their minds active.

"We can only whet their appetites," she said. "They have to take it from there. We have found, however, that when people use their time productively, they don't tend to fall ill as frequently as others."

-- MGH News - via Fred Lingel, K1CCN
reprinted from World Radio

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Getting into Packet Radio...WB9ZRE

from FOXTALES, Newsletter of the Green Fox ARC

If you have made the decision to join the Packet revolution, your next decision will be in choosing a system that best fits your needs.

The basic Packet station consists of a personal computer, the TNC and a transceiver. Virtually any computer that has a serial or RS-232 interface will work well for packet. A simple cable connection will link the computer to the TNC and another cable connects the TNC to the transceiver.

The list of TNCs (Terminal Node Controller), grows every few weeks as the demand continues. TNCs vary as to their advantages and disadvantages depending on the type of packet operations you are going to pursue. This article should help you select what type of TNC will give you the most service.

Virtually all TNCs now on the market utilize AX.2512V2 protocol which, in other words means, they can communicate with each other regardless of the design or manufacturer. Caution should be taken when looking at an older TNC at a swapfest, as some earlier TNCs used modified versions of the AX.25 protocol and may not be totally compatible with the now adopted 'standard'. (Most of these older programs can easily be updated with new a EPROM chip). Likewise, some of these older TNCs had problems in hardware design and can be real headaches.

Your decision in choosing a TNC is the type of operating you intend to pursue.

1. Will your TNC and radio be on 24 hours? A station on 24 hours can receive and store messages from other Packet stations for later reading when you return to your station. It can also act as a digipeater, providing other stations with reliable routing, using your station like a repeater. Most TNCs do not require the computer to be in direct access with the unit. This allows computer to be used for other work or turned off. At least one TNC requires the full attention of the computer whenever it is on.

(continued on page 13)

WISCONSIN NETS ASSOCIATION

WISCONSIN NETS

NET	MNA	FREQ	UTC	CDT	MANAGER
BWN	YES	3984	1100Z	0600	WD9I1D
BEN	YES	3985	1700Z	1200	KA9RII
WSBN	YES	3985	2230Z	1730	WA9ZTY
MNN	YES	3723	2300Z	1800	N9DGL
WSSN	YES	3645	2330Z	1830	N9BDL
WIN-E	YES	3662	0000Z	1900	WB9ICH
WIN-L	YES	3662	0300	2200	KC9CJ
NHTN	YES	34/94	2330Z	1830	KD9VR
WCNTN	YES	31/91	2330Z	1830	NB9H
GR.BAY	NO	72/12	0145Z	2045	WB9NRK
			THU	WED	
WRN	NO	3625	2300Z	1800	K9UTQ
			RTTY Sun. Tue. Thu.		

9RN CYCLE 4 REPORT MAY 1986 QMI 364 QTC 416 QTR 869 IN 62 SESSIONS WISCONSIN PARTICIPATION 92 PERCENT STATIONS N9AUG W9CBE KC9CJ W9CXY A696 WB9ICH KA9DBP K9UTQ W9VCV X 73 - W9JLJ NM

CAND MAY 1986 X 741 MESSAGES IN 31 SESSIONS D9RN 100 PERCENT X STATIONS KA9RII W9CBE KC9CJ W9BDV N9BGE X 73 - W5KLV NM

D9RN MAY 1986 X 255 MESSAGES IN 852 MINUTES X 62 SESSIONS X WISCONSIN 98 PERCENT X STATIONS KA9RII N9BGE W9CBE KC9CJ W9BDV W9IEM WB9PKL WD9WSD - WA4JTE NM

No news received from any of the nets this month. Look for them next month.

SECTION MANAGER'S NOTES May 1986

Richard R. Regent K9BDF
5003 South 26th Street
Milwaukee WI 53221

SEC: W9DAK. STM: K9UTQ. ACC: KA9F0Z. BM: WB9J5W. QOC: NC96. PIO: K9ZZ. SGL: A69V. TC: K9BDF.

The 1986 Wisconsin QSO Party first place plaque was presented to AC9C and the 2nd place awarded to NA9D; in the multi-operator category K9EC, mobile N9EZ, and Greater Rice Lake Contest Club were winners.

N9AGH is new DEC for South Central Wisconsin.

Ham coverage of the Columbus Parade and Horicon Marsh Days in July was coordinated by KA9BIK.

August 2nd and 3rd, Special Events station W9KKK will operate at Experimental Aircraft Association Fly-In near Oshkosh with KA9JDL and W9TA as coordinators.

August 16th Green Bay Mike and Key Club Swapfest, Community Center on Dousman Street, open at 8 a.m.

Also August 16th, Rhinelander Swapfest, South Park School, open at 8 a.m.

Exams August 16th at Waukesha County Technical Institute, send card to WD9JKZ.

August 18-21, Associated Public Safety Communications Officers (APCO) National Conference at Milwaukee MECCA with ARRL booth.

Thanks to WA9ZTY for work on severe weather nets since 1978.

Silent Keys W9CCD, WA9DXR, and WD9VGZ.

W9CXY now has amplifier to get through QRN.

Getting into Packet Radio...WB9ZRE (continued from page 12)

2. Will you be using the TNC on the HF frequencies? VHF frequency operations differ from HF operations by the speed that the information is sent. If you intend to operate on HF, be sure that the TNC is capable of the task. Some TNCs have HF capabilities as a standard feature, others as an upgrade option, and still others, without HF capabilities.

3. Will you often be operating portable? If yes, you might consider a TNC that can operate on a standard 9 volt transistor radio battery.

I have been exposed to several of the leading TNCs and will give examples for selecting three of these.

The AEA Pakratt Model PK-64. This is an excellent unit for the weekend packet operation. The pakratt can only be connected to the Commodore 64 or C-128 computer. The computer must be left on for the TNC to function. The Pakratt additionally can operate RTTY, CW, ASCII and AMTOR modes. An optional HF modem is available. A split screen display with on-screen status indicators and a parameter menu page make this unit one of the easiest to operate. When power is lost or turned off, the operating parameters must be reprogrammed from scratch or loaded from a disk drive. If you intend to operate this unit 24 hours a day, you will not be able to use the computer for other purposes.

The Kantronics KPC-2. This is a popular TNC for 24 hour day operation as the computer can be turned off or used for other purposes without disruption TNC functions. Messages are stored in the 16K on-board memory for later retrieval. Operating parameters are stored in non-volatile memory in the TNC eliminating the need for reprogramming when the unit is turned off or encounters a power failure. A short program is required to program the computer for communicating with the TNC. HF capabilities are standard.

(continued on page 14)



THE WISCONSIN PACKETEER

Wisconsin Amateur Packet Radio Association (W.A.P.R.)
P.O. Box 1215
Fond du Lac, WI 54935

Operating without a watchdog timer is like playing Russian Roulette."

From W3IWI

*** REMINDER ***

The next W.A.P.R. membership meeting will be held at the July 12th, 1986 South Milwaukee Swapfest at Oak Creek. (See the flyer with last month's BSSS.)

The meeting will be held in the Clubhouse, on the grounds, at 1:00 P.M. Bring your band-plans and any thing else you would like to discuss. This will be one of the big packet meetings in Wisconsin and may do much to determine the progress of Packet Radio in Wisconsin. See you there.

PACKET RADIO ON FIELD DAY

Field Day Rules:

A) Bonus Points:

8) Packet Radio: 100 points can be earned by completing at least one QSO on packet radio during the FD period. The repeater provision of Rule 7C is waived for packet radio QSOs. A packet station does not count as an additional transmitter. On the summary sheet, show packet radio QSOs as a separate "band."

There is also a ten-point bonus for any message you relay from other stations.

Please take advantage of this convenience. We hope to here many packets on Field Day.

from Gateway: The ARRL Packet-Radio Newsletter

WATCHDOG TIMERS

"I have had a receiver sitting on 14.103 for over an hour tonight copying solid continuous 'fill' characters from some poor packeteer who has his keying line stuck down. This has also been observed on several occasions on our local Balto/Wash 2-meter LAN frequencies. In addition to being very hard on your radio (few radios are designed for continuous commercial service and tend to get quite warm after a few minutes of such service, and after an hour tend to develop a lot of 'krispy kritters' inside!) this is also very illegal.

"I would advise all packeteers to check to make certain your watchdog timer is functioning. TNC 2 owners should make certain that JMP4 is NOT installed.

"I offer even a stronger concern for users of Kantronics KPC TNCs which apparently do not have any fail-safe watchdog timer included. I would advise all KPC users to build a watchdog and install it ASAP.

PACKET RADIO IN FINLAND

There has been some theoretical and off-air experimenting with packet radio in Finland since 1980. Licences did not allow for packet radio; experimental licences were obtained for HF and VHF/UHF on January, 20 1986.

The first known packet QSO was on 145.725 MHz on May 10, 1986 between OH2A and OH2BYD. OH2A is the Radio Amateur League of Finland. The second QSO was between OH2AZG and OH2BYD. These QSOs were made using a PK-64 at the station of OH2BA. A TAPR TNC 2 was used at OH2TI. The complex use of call signs results from the limited number of experimental licences. Application time for the licence is approximately six months.

The first HF QSO was between OH2A and DJ6TJ on May 18 1986. At present, regulations allow 1200 bauds on all amateur frequencies, but HF QSOs were on 14.098 using 300 bauds.

At present there are about ten amateurs with packet equipment, however, the number of experimental licenses is growing with some 20 licenses having been granted. I suppose that OH calls will be soon heard on HF and satellite packet frequencies.

From OH2AZG

Getting into Packet Radio...WB9ZRE
(continued from page 12)

The GLB Portable. This unit is similar to the KPC-2 in function, but, with one distinct difference - it's size. It is about the size of a shirt-pocket HT. This size and the fact that it operates on a 9 volt transistor battery makes it a ideal TNC for portable operations. A HT, lap computer and TNC is easily transportable and dependable.

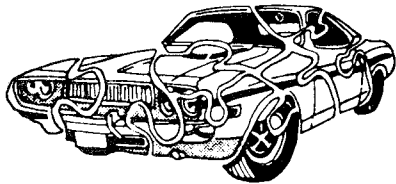
As I have indicated above, there are many more TNCs on the market. I have given a couple examples of TNCs to show the differences in their capabilities. The decision is yours to choose the one that will best fit your conditions. Consider it carefully and ask questions. Packet is terrific mode when you purchase the 'right' TNC. Good Luck!

Steve -- WB9ZRE

That is it for this issue. Don't forget to renew now and save. Also let us know of your Field Day activities.

73 from the bss staff.

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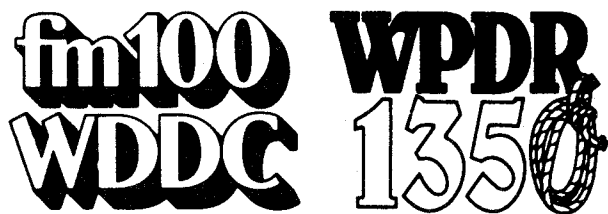
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